

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for manufacturing a gallium nitride compound semiconductor, comprising the steps of:
  - (a) forming a first gallium nitride compound semiconductor on a substrate, the first gallium nitride compound semiconductor having a first surface;
  - (b) forming ~~on~~ on less than a total area of the first surface a composition material of the first gallium nitride compound semiconductor ~~a discrete area on the first gallium nitride compound semiconductor;~~ and
  - (c) forming a second gallium nitride compound semiconductor on the first gallium nitride compound semiconductor on which the composition material is formed; wherein a spatial fluctuation is created in the band gap by variation in the compositional ratio in the second gallium nitride compound semiconductor created by the composition material, and the second gallium nitride compound semiconductor is a light emitting layer.
2. (Original) A method according to claim 1, wherein the first gallium nitride compound semiconductor and the second gallium nitride compound semiconductor are AlGaN; and the composition material is Ga or Al.
3. (Currently Amended) A method for manufacturing a gallium nitride compound semiconductor, comprising the steps of:
  - (a) forming a base layer on a substrate, the base layer constructed by forming a

~~discrete~~-layer on less than a total area of a surface of the base layer for varying the diffusion lengths of composition materials of a gallium nitride compound semiconductor; and

(b) forming the gallium nitride compound semiconductor on the base layer; wherein

a spatial fluctuation is created in the band gap by creating a variation in the compositional ratio in the gallium nitride compound semiconductor by varying the diffusion lengths of the composition materials, and the gallium nitride compound semiconductor is a light emitting layer.

4. (Original) A method according to claim 3, wherein the gallium nitride compound semiconductor is AlGa<sub>N</sub> and the layer for varying the diffusion lengths of the composition materials is formed from SiN.

5. (Currently Amended) A method for manufacturing a gallium nitride compound semiconductor comprising the steps of:

(a) forming, on a substrate, a base layer having a lattice mismatch layer formed on less than a total area of a surface of the base layer; and

(b) forming the gallium nitride compound semiconductor on the base layer; wherein

a spatial fluctuation is created in the band gap of the gallium nitride compound semiconductor by the lattice mismatch, and the gallium nitride compound semiconductor is a light emitting layer.

6. (Original) A method according to claim 5, wherein the lattice mismatch is formed by discretely forming at least one of AlN, InN, AlInGaN, Si, AlGaN, and MgN.
7. (Original) A method according to claim 5, wherein the gallium nitride compound semiconductor has a superlattice structure of AlGaN and GaN.
8. (Currently Amended) A light emitting element comprising a gallium nitride compound semiconductor, the light emitting element comprising:
  - a substrate;
  - a first gallium nitride compound semiconductor layer formed on the substrate, the first gallium nitride compound semiconductor layer having a first surface;
  - a composition material of the first gallium nitride compound semiconductor formed ~~as a discrete area on the first gallium nitride compound semiconductor layer~~ on less than a total area of the first surface; and
  - a second gallium nitride compound semiconductor layer having a varied compositional ratio and formed on the first gallium nitride compound semiconductor layer onto which the composition material is formed, and the second gallium nitride compound semiconductor is a light emitting layer.
9. (Original) A light emitting element according to claim 8, wherein the first gallium nitride compound semiconductor and the second gallium nitride compound

semiconductor are AlGaIn; and the composition is Ga or Al.

10. (Currently Amended) A light emitting element comprising a gallium nitride compound semiconductor, the light emitting element comprising:  
a substrate;  
a base layer formed on the substrate and constructed by forming a ~~discrete~~ layer on less than a total area of a surface of the base layer for varying the diffusion lengths of the composition materials of the gallium nitride compound semiconductor; and  
gallium nitride compound semiconductor layer having a varied compositional ratio and formed on the base layer, and the gallium nitride compound semiconductor is a light emitting layer.
11. (Original) A light emitting element according to claim 10, wherein the layer for changing the diffusion length of the composition materials is SiN and the gallium nitride compound semiconductor is AlGaIn.
12. (Currently Amended) A light emitting element using a gallium nitride compound semiconductor, the light emitting element comprising:  
a substrate;  
a base layer formed on the substrate and having a lattice mismatch formed on less than a total area of a surface of the base layer; and  
a gallium nitride compound semiconductor layer formed on the base layer and

having a spatial fluctuation in the band gap, and the gallium nitride compound semiconductor is a light emitting layer.

13. (Original) A light emitting element according to claim 12, wherein the gallium nitride compound semiconductor layer has a superlattice structure.